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ABSTRACT

A study was conducted to identify those variables appearing to affect cash management practices in Florida community colleges, and recommend prescriptive measures concerning these practices. The study methodology included informal discussions with the chief fiscal officers of each Florida community college and appropriate state board staff, followed by a questionnaire survey of the college fiscal officers. Study findings, based on a 100% survey response rate and analyses of state financial and census data, revealed the following as the primary affecting variables: (1) relative community college size with respect to enrollment, service area population, funding, and banking facilities; (2) efficient investment use of community college assets; (3) use of proportionally large fund balances to improve investment performance rather than the magnitude of the fund balance itself; (4) perceived levels of training with respect to actual investment performance; (5) the investment instrument and its proper use based upon investment amount, time period, and market conditions; (6) the use of banking contracts to provide banking success; (7) aggressive placement of investable funds to improve investment performance; (8) the length of the investment instrument; (9) the deferral of payments with respect to discount terms and public reaction; (10) interest bearing checking accounts; and (11) pooled investment sources. The study report includes recommendations for the improvement of cash management practices and the survey instruments. (LAL)

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# FINANCIAL MANAGEMENT: CASH MANAGEMENT PRACTICES IN FLORIDA COMMUNITY COLLEGES

By

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Gainesville, Florida
1985

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## INTRODUCTION

The Institute of Higher Education as a research and service agency of the University of Florida provides occasional reports and studies designed to promote improvement in community college operation, to identify knowledge which will support institutional development and/or improvement, and to support inquiry which is a basis for development of quality in the community college or university.

Previous studies have followed these precepts. This report is also in that tradition. Cash management is of vital concern to those who administer community colleges especially since funds are limited. Obviously some institutions are more successful than others. This report will aid the less successful to become more successful.

Dr. Spiwak has assembled data on the current situation in Florida. His analysis provides college administrators with information on doing a better job. Hopefully the next survey of this topic will find even better cash management.

The Institute of Higher Education is pleased to add this to the series on contributions to higher education. The reactions of users are always welcomed.

James L. Wattenbarger

Gainesville, Florida
February, 1986

## AN OVERVIEW

Evaluations of cash management performance and identifying the variables appearing to affect cash management practices and performance have been studied with respect to various educational systems in the past, but a specific study to determine those variables and levels of performance among Florida's community colleges was determined as both necessary and most useful to the college's in the Florida system. Decreased accountability and limited financial resources have demanded serious attention to the improving of sources of nontaxsupported revenues. Thus, improving investment performance has become an important issue among the chief fiscal officer among Florida's community colleges.

This investigation identified 11 primary affecting variables influencing Florida's community college's cash management programs and investment performances. Through controlled analysis of financial data uniformly reported by each college and by analysising descriptive data collected by a directed questionnaire, sufficient documentation was derived to recommend the following prescriptive measures:

1. Methods should be sought by each community college to improve the efficient and effective use of current assets.

2. Statewide training programs and seminars should be established for the community colleges' chief fiscal officers and investment managers to influence improved cash management and investment techniques and performance.

3. A standing Investment/Cash Management Committee should be formed among the community colleges' investment managers and in conjunction with the State Board of Community Colleges staff and banking community with a responsibility to gather and disseminate investment and cash management data to all of Florida's community colleges.

4. A Florida Community College Cash Management Consortium should be developed and implemented as the focal point for implementing most of those recommendations.

This study should be viewed as a tool to self-evaluate current cash management and investment practices with the intent of improving performance weaknesses and exploiting apparent strengths.

PART I

# CASH MANAGEMENT PRACTICES IN FLORIDA COMMUNITY COLLEGES

## Introduction

Cash management and the investing of idle funds was an activity of educational administration not given the high priority and attention that it is given in industry (Howard & Jones, 1973). The effective control of cash assets can be one of the most important responsibilities of the fiscal administration to promote successful financial management. Banking relations and formal banking agreements/contracts have, in the 1980's, become a more important aspect of the cash management practices among educational institutions and have led to increased interest and practice.

A study of higher education cash management and investment programs in Michigan, for the periods of 1973-1974 and 1974-1975, portrayed the significance of effective and efficient cash management and investment programs. Thirteen major public institutions were studied and these results were reported: (a) One institution produced double the weighted average percentage return on investable funds as did the other 12 institutions combined. (b) The other 12 institutions produced in excess of $23 million in investment income but could have produced $46 million if they had practiced the cash management techniques of the most effective producing institution (Haag, 1977).

The financing of higher education has become dramatically affected by governmental intervention, inflation, a decrease in

student population, and a drastic increase in the cost of operation (Walton, 1981). The taxpayer's resistance to increasing taxes to fund these costs has also increased (Brown, 1979). Florida is no exception to this dilemma. The result is that tax cutting/fund limitation/fund use restrictions have become a dominant political theme of the 1980's (Walton, 1981).

Brown (1979) further pointed out the resistance to increased taxes has led to a demand for institutional "accountability," the efficient use of those public funds which are appropriated. In order to meet the demand for funding, in light of political and economic pressures, fiscal administrators have had to seek methods of maximizing benefits from additional revenue sources. One significant source has been the implementing of a sound cash management program. The institution will have periods of idle cash due to the fluctuations in periods of revenue and expenditure transactions. Florida's community colleges' patterns of revenue and expenditures are quite comparable as each community college experiences similar cyclical receiving of state and student revenues and disburses those funds for payroll and other expenses at comparable time periods. Approximately 80% of each college's revenue is derived from state appropriations, disbursed to the institutions on an equal monthly basis. The balance of revenues is composed of student fees, interest income, federal and local funds, and other sources. The combined student fees and other revenues fluctuate based primarily upon the registration periods for each semester. Salary expenditures comprise nearly 75% to 80% of all current operating fund disbursements.

Normally, weekly, biweekly, semimonthly, or monthly pay periods produce a fairly even pattern of expenditure with short time periods of idle cash between payroll disbursement dates. The remaining expenditures are patterned on usage factors such as utility usage, travel plans, and material/supply needs. The primary fluctuation of these expenditure types occur in the final few months of the fiscal year, when institutions are attempting to "close-out" departmental budgets and "replenish" supplies and materials with remaining budgeted funds. The factors produce 20 to 30 cycles of short term idle funds available for investing and longer periods of idle funds for non-operating fund sources.

Proper cash management is the process of managing these funds to insure maximum cash availability and maximum yield on short-term investment of idle cash (Patitucci & Lichtenstein, 1977). Walton (1981) listed the components of a cash management program as follows:

1. Administrative structure--the legal basis of the program and the administrative structure that administers the program.
2. Cash management information system and the cash budget--the operating system upon which actions are taken based on historical data and current data and trends.
3. Banking relations--an element in the information system and, in addition to providing banking services, serves as the vehicle most often used to enter the money market investment area.
4. Selection of investment instruments and investment strategy--the integration of the cash management information system, the cash budget, the current rate of return of differing instruments, and the market trends, in such a way that the instruments selected will maximize return on investments.
5. Political and non-financial consideration--the recognition that the school district as a public body is subject to political and social forces. Quantification of the costs of these influences provides a balancing function to these pressures. (pp. 4-5)

The specific goals of these components are the availability of cash assets and the yield produced by proper managing of those cash assets. Dembowski (1978) discussed the perceived need of the public for educational administrators to practice more efficient business procedures and policies. Along with proper internal control, effective purchasing techniques, and timely receipt of and payment of funds, cash management has moved up the priority list as a major focus among fiscal officers. Another benefit of an efficient cash management/investment program is the positive link formed between the educational institution and the business community. This relationship promotes increased support for education and encourages assistance in educational financial planning from the banking and business communities (Haskins & Sells, 1977). It is a very positive statement to be able to document the institution's ability and success in supplementing taxpayers' funds with non-tax revenues derived from an effective cash management program.

Cash management for higher education institutions is not a cost, but a very desirable dividend. One community college in Florida earned in excess of $2.5 million in one fiscal year with a cost of minimal clerical work and a small portion of a few staff members' time. The benefits far outweighed the costs. Costs which in fact existed prior to the implementing of the comprehensive cash management program. Nivens (1979) presented the basic steps in developing a modern cash management program.

> The first step in developing a modern investment program is to have the backing of the first-line administrators in acknowledging that the university must function with an

> optimal investment system. Secondly, a responsible person should be assigned the task of devising and administering the program. The cash manager must become sufficiently acquainted with the university personnel to enable the efficient implementation of such an investment program. Also, the cash manager should recognize the importance of effective bank relations to a cash management program. This point of view is nearly always stressed by cash management authors. Hill (1970) said, "No cash management program can be complete without an effective corporate-bank relationship." Lordan (1973) stated, "Of the four cash management functions outlined, none is more important than company-bank relations Every cash management program does require a close working relationship between company and bank."
>
> Thirdly, the investment officer should be sufficiently familiar with the alternative investment instruments that are marketably available. Again, before entering the investment market, the bankers being "dealers" in the commodity of "money" can provide a logical source of information and advice concerning investment opportunities. Local banking officials are the main contact an investment officer has with the investment market. These bankers are always available to act as custodians of securities and to provide current advice on changing markets. As stated in the publications, Treasury Cash Investment Management (1971):
>
> A finance administrator who chooses to avail himself of bank services needs only to make a single telephone call in regard to a desired purchase or sale. The bank will place the order, negotiate the price subject to the administrator's approval, close the transaction, and arrange for delivery. Where the securities have been held in the bank's vault, an entire purchase and sale cycle may be executed without the administrator having seen the documents. (pp. 5-7)

Cash management is truly an integral part of an institution's financial management program. Along with proper investment practices and effective banking relations, Florida's community colleges have the ability to promote non-tax revenues and improve their administrative images. If further improvements are to be forthcoming, they must be based upon knowledge currently available in the industry and documented current practices of community colleges to provide the vehicle for analysis, evaluation, and recommendation.

Public schools and community/junior colleges have, in mary instances, comparable financial management organizational structures and practices. Florida's community colleges were organized within the public school system and closely parallel their funding, financial management practices, and financial practices among Florida's university system. Therefore, emphasis in the study was equally placed on school district financial practices in relation to Florida's community colleges in addition to four year higher educational institutions.

Florida's 28 community colleges are self-governed entities of the State Legislature under the direction and guidance of the State Board of Community Colleges. The community college concept in Florida was designed to allow and encourage maximum local control and local responsibility. This fiscal autonomy is tempered by general state and Board of Education rules and regulations but leaves adequate control at each community college to determine policy and procedure.

Each community college enjoys this fiscal freedom, but may be disadvantaged by having varied resources in expertise, financial capabilities, and available time to manage properly their cash assets. Preliminary verbal surveys among the majority of the chief fiscal officers produced a definite desire to pursue improved cash management techniques, as long as local control is maintained. The study was designed to gather the data necessary to determine the extent of current cash management practices and the extent of the willingness to adopt improved techniques.

Given the availability of data, apparent benefits of successful cash management systems and the absence of any previous study of this nature among Florida's community colleges, there was a need to conduct this study.

## PART II

## THE STUDY

The focus of the study was to identify those variables appearing to affect cash management practices and recommend prescriptive measures for further improvements among Florida's community colleges with respect to cash management practices.

The affecting variables were studied as they relate to the following three questions:

1. What cash management procedures and policies were practiced among Florida's community colleges during 1983-84?
2. What was the actual level of investment performance and banking services with respect to these varied procedures and policies among Florida's community colleges during 1983-84: (a) rate of return of investments, (b) cash flow periods, (c) actual revenues and expenditures, and (d) calculated idle funds by period?
3. Do the following variables appear to influence the cash management performances: (a) employment status of the investment manager, (b) educational background of the investment manager, (c) professional characteristics of the investment manager, (d) types of investment instruments utilized, (e) depository account characteristics, (f) investment policies, (g) financial management practices, (h) factors restricting investment effectiveness, (i) demographic factors, and (j) other related investment factors?

## Background and Rationale of the Study

Florida's community college system is comprised of institutions that vary greatly in size, complexity, and comprehensiveness. Likewise, financial management practices should tend to vary based on variables relevant to their differences. These variables, which affect the financial management, were addressed, identified, and studied in an attempt to provide probable recommendations to overcome negative results and promote positive results. Furthermore, with the economic and political climate of the 1980s facing Florida's community colleges, any positive attempt to produce non-tax revenues and promote more effective and efficient financial practices is desirable.

This study was designed to provide the chief fiscal officer at each community colleges with necessary information for improving the performance of his/her investment program and provide the data upon which sound financial decision making can be formulated in the areas of cash management and banking relationships. Previous research in this area may lend some assistance in the formulating of finanical relationships and identifying those comparable variables. The uniqueness of the Florida community college system is to the extent as to limit the usefulness of previous studies.

The community colleges in Florida have a public school origin and yet since the 1950's began to acquire many of the norms of the university system. Community colleges are further affected by the presence of local control and increased operational liberties. Given the factors of control, uniqueness, lack of previous study, need for maximization of funds in a time of limited funding, the present study was undertaken as an aid to

decision makers among the community colleges in the state of Florida and to provide some information that might be helpful to other people in other states who might confront similar situations.

## Assumptions

The following assumptions were basic to the investigation:

1. The investment manager or appropriate administrator can accurately predict expenditures and receipt intervals for a period of at least one year.
2. Increased non-tax revenue can be produced by improving cash management/investment practices.
3. Each institution has the potential to invest funds and manage cash assets as it chooses.
4. There may exist a wide variation in investment yield and cash management practices among the 28 Florida community colleges.
5. Florida Statutes and Florida State Board of Education Regulations are supportive to recommended financial management practice or can be amended to be supportive.
6. Colleges with relatively large sources of investment funds should produce a greater proportional investment yield than those institutions with comparatively small balances.

7. The relative success of each college's cash management program is directly related to the administrative priority and effort placed on optimum stewardship of public funds.

## METHODOLOGY

The Introduction portrays past and current issues related to cash management practices. The researcher applied many of the same investigative techniques and identified affecting variables in the study of the 28 community colleges in Florida as described in these issues.

### Informal Discussions

The gathering of data for the study began with informal discussions between the researcher and both the chief fiscal officers of each Florida community college and appropriate SBCC staff. Interest in the study became apparent and cooperation from the discussions was offered. Further contacts were made during the period of related literature review and instrumentation preparation. It is suggested by the researcher that this informal preparation served as a catalyst to improve both individual questionnaire responses and the eventual 100% response by the specified population of all 28 Florida community colleges.

### Questionnaire Development

The questionnaire was developed with the intent to identify information in order to evaluate both general cash management issues, as well as those issues specific to Florida'a community colleges.

Numerous questionnaires from previous studies conducted in other states and among varied levels of educational institutions were thoroughly studied and evaluated. Questions appearing in the questionnaires developed by Snearly (1982) and Hightower (1981) most directly related to the problem statement of this study. Therefore, sections of their instruments were modified to the specificaties of the Florida financial system. Other questions were developed from the desire to gather specific data which were perceived as relevant by the researcher.

Validation

The content validation of the instrument involved a three-stage process. The first stage involved the evaluation of content validity as identified in the Snearly study (1982) and the Hightower study (1981) as the instruments from these studies were modified for use in this study. Both studies clearly addressed the content validity of their instrumentation and confirmed the validity of their instruments.

The second stage consisted of an editorial review to determine if the instrument was clearly understood, logically presented, not excessively time consuming, and relative to the issues. A seven member group from the finance community was identified to review the instrument and comment on the appropriate validity issues. The members noted minor editorial changes and suggested that the instrument pages be photographically reduced to one-quarter size and arranged four reduced pages to one standard sheet page. While not reducing the number of questions nor reducing the actual length of the instrument,

the reduced size gave the appearance of a less time consuming task to complete the responses. The resulting suggestion produced a two page, reduced type, questionnaire rather than an eight page, standard type, instrument.

The third stage consisted of a review similar to that in stage two but performed by three members of the banking community. Cash management issues were reviewed from their perspectives and related to the instrument questions. No significant errors were noted though an interest was expressed by the members to have access to the data gathered from the actual respondent questionnaires and the recommendations suggested by the researcher. The researcher determined that the instrument content appeared to be valid with respect to the issues it presented.

Pilot Test

Individuals with financial responsibilities similar to the community college investment manager were selected to review the instrument for format, time for completion, clarity, and flow of questioning. The individuals were selected from educational institutions in Florida other than public community colleges or from community college personnel who had previous experience in investment management but were currently performing other administrative responsibilities. Based upon the critiques presented by the pilot test, selected questions were reworded, rearranged in order of questioning, more clearly described in the instrument instructions, or omitted.

The Questionnaire

The questionnaire (Appendix A) was distributed to each Florida community college chief fiscal officer. Responses began to be

received approximately two weeks after the mailing date. After three weeks, a follow-up letter (Appendix B) was mailed to the community colleges not having responded as of that date. Finally, a telephone follow-up of the final three non-respondents was made and by the fifth week, all 28 community colleges had responded.

## Demographic and Financial Data

Certain demographic and financial data were identified as factors contributing to variations in investment performance and cash management practices. The literature consistently outlined population data with respect to the college's service area and college financial data to include (a) assets, (b) actual interest income earned, (c) total revenue earned, (d) fund balance of current funds at year-end, and (e) year-end cash and investment volumes as factors having significant effects on the performance and practices.

These data were collected via the financial records of the SBCC and from current Florida census data provided by the Florida Department of Commerce.

## Analysis of Data Gathered

The analysis of data gathered from SBCC financial records was organized in a manner to build one set of data upon the next data discussed. The data were further crosscompared, where appropriate, and provide for various observations, explanations, possible interpretations, and limitations.

### Relative Enrollment Data

Enrollment data expressed in full-time equivalent (FTE) student enrollments for each community college are presented in Table 1

Table 1

Relative Enrollment Data (FY 1983-84)

| Community College* | FTE Enrollment | Rank Size |
|---|---|---|
| 1. Alpha | 8245.5 | 5 |
| 2. Beta | 10408.6 | 3 |
| 3. Gamma | 2759.7 | 16 |
| 4. Delta | 997.4 | 24 |
| 5. Epsilon | 7262.7 | 7 |
| 6. Zeta | 2797.1 | 15 |
| 7. Eta | 13943.3 | 2 |
| 8. Theta | 778.0 | 26 |
| 9. Iota | 2171.0 | 20 |
| 10. Kappa | 6317.8 | 8 |
| 11. Lambda | 4689.5 | 13 |
| 12. Mu | 2060.4 | 21 |
| 13. Nu | 964.9 | 25 |
| 14. Xi | 3406.7 | 14 |
| 15. Omicron | 25009.3 | 1 |
| 16. Pi | 695.1 | 28 |
| 17. Rho | 2347.7 | 19 |
| 18. Sigma | 5757.8 | 10 |
| 19. Tau | 1615.1 | 22 |
| 20. Upsilon | 8125.3 | 6 |

Table 1--Continued

| Community College* | FTE Enrollment | Rank Size |
|---|---|---|
| 21. Phi | 2658.1 | 18 |
| 22. Chi | 743.9 | 27 |
| 23. Psi | 8883.7 | 4 |
| 24. Omega | 5395.2 | 11 |
| 25. Ion | 5277.1 | 12 |
| 26. Orion | 1272.3 | 23 |
| 27. Dion | 2677.6 | 17 |
| 28. Hypo | 6121.3 | 9 |
| System | 143382.1 | N=28 |

*Note: Each community college has been give a fictitious name for identity reasons.

FTE data provide a basis to compare and evaluate the relative size of each community college. Actual unduplicated student head count does not directly relate to FTE enrollments among each community college. Variations in the make up of educational programs among the community colleges and the determination of student participants within these programs with respect to calculating an FTE make a direct head count comparison invalid. Therefore, overall FTE, one of the bases of state funding, is more properly a means of comparison.

The range of FTE enrollments varies greatly from 695.1 FTE to 25,009.3 FTE. In comparing FTE size to relative performance and practice data it may be noted as to what degree of effect may be attributed.

Relative Service Area Population Data

Population data expressed in numbers of residents for each service area (counties served by each community college) and by the city in which the college is located provide a basis to compare and evaluate relative community college population bases (see Table 2 ).

Observation and explanation. The more densely populated counties are associated with the community colleges with the greatest FTE. Variations to this pattern can be explained by considering the program mix of the institutions. Those community colleges with vocational/ technical and/or adult programs tend to enroll proportionally more students per capita than those colleges with primarily college credit programs. All other factors aside, there can be observed a direct relationship between service area population and FTE enrollment.

Table 2

Relative Service Area Population Data (1980 Census)

| Community College | Primary City | Service County(ies) | Rank City Population | Rank County Population | Rank FTE Enrollment |
|---|---|---|---|---|---|
| Alpha | 16,096 | 272,959 | 20 | 13 | 5 |
| Beta | 153,279 | 1,018,200 | 5 | 2 | 3 |
| Gamma | 37,170 | 122,488 | 11 | 22 | 16 |
| Delta | 7,006 | 77,680 | 26 | 25 | 24 |
| Epsilon | 54,176 | 269,675 | 10 | 14 | 7 |
| Zeta | 36,638 | 309,836 | 12 | 10 | 15 |
| Eta | 540,920 | 603,897 | 1 | 6 | 2 |
| Theta | 24,382 | 63,188 | 17 | 27 | 26 |
| Iota | 33,346 | 120,319 | 14 | 23 | 20 |
| Kappa | 271,523 | 646,960 | 3 | 4 | 8 |
| Lambda | 33,802 | 167,342 | 13 | 19 | 13 |
| Mu | 9,257 | 60,854 | 23 | 28 | 21 |
| Nu | 13,191 | 129,142 | 21 | 21 | 25 |
| Xi | 30,170 | 409,153 | 15 | 8 | 14 |
| Omicron | 346,865 | 1,625,781 | 2 | 1 | 1 |
| Pi | 3,487 | 66,509 | 28 | 26 | 28 |
| Rho | 8,543 | 131,220 | 24 | 20 | 19 |
| Sigma | 27,048 | 640,877 | 16 | 5 | 10 |
| Tau | 4,923 | 292,815 | 27 | 11 | 22 |
| Upsilon | 57,619 | 289,782 | 9 | 12 | 6 |

Table 2--Continued

| Community College | Primary City | Service County(ies) | Rank City Population | Rank County Population | Rank FTE Enrollment |
|---|---|---|---|---|---|
| Phi | 21,119 | 321,652 | 19 | 9 | 18 |
| Chi | 10,175 | 168,904 | 22 | 18 | 27 |
| Psi | 238,647 | 728,531 | 4 | 3 | 4 |
| Omega | 81,371 | 204,759 | 8 | 16 | 11 |
| Ion | 23,176 | 179,752 | 18 | 17 | 12 |
| Orion | 8,026 | 91,936 | 25 | 24 | 23 |
| Dion | 81,548 | 211,810 | 7 | 15 | 17 |
| Hypo | 128,291 | 520,321 | 6 | 7 | 9 |
| System | | 9,746,342 | N=28 | N=28 | N=28 |

Possible interpretations. These data become more meaningful when compared to performance and practice data as it may be assumed that larger population centers are directly related to more banking facilities which in turn promote bank competitiveness and may result in more desirable investment opportunities and banking services.

Limitations. In making comparisons, careful attention should be paid to the effects of instructional program mix on enrollments/population and to the possibility of students from one service area actually enrolling in a neighboring service area's community college.

Relative Revenue Data (FY 1983-84)

The source and volume of community college revenues with respect to frequency of receipts and expenditures provide one of the basic measurement factors in investment performance. Both total revenues (all sources) and operating revenues (current funds sources only) were analyzed as they related to FTE rank. Population ranking is not compared as it closely relates to FTE ranking. (See Table 3.)

Observation and explanation. The data clearly demonstrate the direct relationship of revenues and FTE enrollment. This is to be expected for 80% of the community college revenue is appropriated by the state and the state appropriation is calculated partially on an enrollment basis. Legislative adjustments to this funding formula have caused the variations in this relationship.

Possible interpretation. The funding formula for state appropriations has a direct impact on this relationship and requires no further interpretation.

Table 3

Relative Revenue Data (FY 1983-84)

| Community College | Total College Revenues (million $) | Current Fund Revenues (million $) | Rank Total Revenue | Rank Current Revenues | Rank FTE Enrollment |
|---|---|---|---|---|---|
| Alpha | 27 5 | 22.7 | 7 | 6 | 5 |
| Beta | 38.3 | 32.9 | 3 | 3 | 3 |
| Gamma | 9.1 | 8.2 | 18 | 17 | 16 |
| Delta | 6.6 | 3.9 | 22 | 23 | 24 |
| Epsilon | 24.2 | 19.5 | 9 | 8 | 7 |
| Zeta | 11.3 | 8.3 | 15 | 16 | 15 |
| Eta | 51.3 | 41.3 | 2 | 2 | 2 |
| Theta | 3.9 | 3.5 | 26 | 26 | 26 |
| Iota | 8.4 | 7.1 | 20 | 20 | 20 |
| Kappa | 29.1 | 20.1 | 6 | 7 | 8 |
| Lambda | 14.5 | 12.7 | 13 | 13 | 13 |
| Mu | 8.2 | 7.1 | 21 | 19 | 21 |
| Nu | 4.2 | 3.7 | 25 | 24 | 25 |
| Xi | 12.1 | 9.9 | 14 | 14 | 14 |
| Omicron | 103.9 | 84.3 | 1 | 1 | 1 |
| Pi | 2.9 | 2.7 | 28 | 28 | 28 |
| Rho | 8.8 | 6.8 | 19 | 21 | 19 |
| Sigma | 24.8 | 18.3 | 8 | 10 | 10 |
| Tau | 6.2 | 5.1 | 23 | 22 | 22 |
| Upsilon | 29.4 | 23.9 | 5 | 5 | 6 |

Table 3--Continued

| Community College | Total College Revenues (million $) | Current Fund Revenues (million $) | Rank Total Revenue | Rank Current Revenues | Rank FTE Enrollment |
|---|---|---|---|---|---|
| Phi | 10.3 | 8.6 | 17 | 15 | 18 |
| Chi | 3.6 | 3.2 | 27 | 27 | 27 |
| Psi | 32.4 | 27.5 | 4 | 4 | 4 |
| Omega | 21.8 | 17.9 | 11 | 11 | 11 |
| Ion | 16.0 | 14.4 | 12 | 12 | 12 |
| Orion | 4.6 | 3.6 | 24 | 25 | 23 |
| Dion | 10.3 | 8.0 | 16 | 18 | 17 |
| Hypo | 22.6 | 19.1 | 10 | 9 | 9 |
| System | 546.3 | 444.3 | N=28 | N=28 | N=28 |

Limitations. This relationship is limited to comparative studies of institutions funded in a manner similar to the Florida community college system.

Relative Interest Income Data (FY 1983-84)

The gross receipts from interest income earned by the community college is the primary measurement tool in evaluating investment performance. Interest income, when related to investable assets and adjusted by cash flow patterns, provides the data to determine how effective the community college's efforts in investing idle assets were. Both total interest income from all sources and Current Fund interest income alone are presented in Table 4. Current Funds or the normal operating funds of the community colleges are separately studied because they comprise the majority of investable funds and are predominantly proportional to the operations of varied community college sizes. Size is expressed in FTE enrollment, gross square footage of facilities, numbers and types of employees, and educational program offerings.

Observation and explanation. Once again, there is a relative direct relationship between FTE enrollment and interest income earned. Five community colleges' FTE rankings vary five or more steps from their interest income rankings. This variance is greater between total interest income and FTE enrollment than between Current Fund interest income and FTE enrollment.

Table 4

Relative Interest Income Data (FY 1983-84)

| Community College | Total Interest Income ($) | Total Current Fund Interest Income ($) | Rank Total Interest Income | Rank Current Fund Interest Income | Rank FTE Enrollment |
|---|---|---|---|---|---|
| Alpha | 324,536 | 292,306 | 13 | 9 | 5 |
| Beta | 566,963 | 449,601 | 6 | 4(H) | 3 |
| Gamma | 204,344 | 97,242 | 19 | 19 | 16 |
| Delta | 49,453 | 27,424 | 26 | 27(L) | 24 |
| Epsilon | 754,328 | 359,277 | 4 | 7 | 7 |
| Zeta | 247,910 | 166,038 | 16 | 16 | 15 |
| Eta | 1,445,015 | 1,074,062 | 2 | 2(H) | 2 |
| Theta | 25,102 | 19,525 | 28 | 28(L) | 26 |
| Iota | 235,448 | 148,657 | 17 | 17 | 20 |
| Kappa | 362,496 | 238,194 | 10 | 11 | 8 |
| Lambda | 492,664 | 296,354 | 7 | 8 | 13 |
| Mu | 120,480 | 94,731 | 21 | 20 | 21 |
| Nu | 84,160 | 61,334 | 22 | 21 | 25 |
| Xi | 313,621 | 196,239 | 14 | 13 | 14 |
| Omicron | 1,433,063 | 1,094,343 | 3 | 1(H) | 1 |
| Pi | 50,870 | 27,852 | 25 | 26(L) | 28 |
| Rho | 75,485 | 45,589 | 24 | 24(L) | 19 |
| Sigma | 1,652,176 | 519,677 | 1 | 3(H) | 10 |
| Tau | 60,358 | 47,390 | 23 | 23 | 22 |
| Upsilon | 492,548 | 408,720 | 8 | 6 | 6 |

Table 4--Continued

| Community College | Total Interest Income ($) | Total Current Fund Interest Income ($) | Rank Total Interest Income | Rank Current Fund Interest Income | Rank FTE Enrollment |
|---|---|---|---|---|---|
| Phi | 212,540 | 134,024 | 18 | 18 | 18 |
| Chi | 37,623 | 30,667 | 27 | 25(L) | 27 |
| Psi | 656,651 | 411,220 | 5 | 5(H) | 4 |
| Omega | 337,731 | 192,448 | 12 | 14 | 11 |
| Ion | 411,200 | 264,174 | 9 | 10 | 12 |
| Orion | 129,558 | 58,146 | 20 | 22 | 23 |
| Dion | 249,036 | 173,705 | 15 | 15 | 17 |
| Hypo | 345,478 | 196,562 | 11 | 12 | 9 |
| System | 11,370,837 | 7,125,501 | N=28 | N=28 | N=28 |

Note: (H) = Top five highest interest income earner
(L) = Lowest five

Possible interpretation. The variances may be caused by the varied amounts of investable funds found in the funds of the community colleges other than Current Funds. These may be funds for non-operating scholarships, loans, construction, auxiliary operations, and debt service purposes. By further comparing the interest earnings to investable funds, a clearer relationship may be found.

Limitations. The make up of the student population and academic programs comprising the FTE enrollments is not totally comparable, as previously stated. The comparison does generally relate FTE enrollment size to interest income volume.

Relative Assets Data (6/30/84)

In the process of determining investment performance one must compare earnings with the source of the earnings. In studying the source of the earnings, a logical starting point is to investigate the total assets of the community college. This will relate to the rate of return on the investing of assets in general, though not specific investable assets. Nonliquid assets such as tangible property and accounts receivable cannot be invested unless they are converted to cash. While these nonliquid assets are included in total assets, each community college maintains some balance of nonliquid assets. The community college's ability to keep the volume of these nonliquid assets to a minimum will allow for a greater source of investable assets. (See Table 5.)

Table 5

Relative Assets Data (6/30/84)

| Community College | Total Assets (million $) | Current Fund Assets (million $) | Rank Total Assets | Rank Total Interest Income | Rank Current Fund Assets | Rank Current Fund Interest Income |
|---|---|---|---|---|---|---|
| Alpha | 6.8 | 4.6 | 11 | 13 | 7 | 9 |
| Beta | 9.7 | 4.7 | 6 | 6 | 6 | 4 |
| Gamma | 4.0 | 2.6 | 15 | 19 | 14 | 19 |
| Delta | 2.7 | .6 | 22 | 26 | 25 | 27 |
| Epsilon | 8.4 | 4.1 | 8 | 4 | 9 | 7 |
| Zeta | 3.2 | 1.8 | 19 | 16 | 19 | 16 |
| Eta | 28.7 | 17.3 | 1(H) | 2 | 1 | 2 |
| Theta | .6 | .4 | 27(L) | 28 | 27 | 28 |
| Iota | 3.5 | 2.2 | 17 | 17 | 16 | 17 |
| Kappa | 10.7 | 4.2 | 5(H) | 10 | 8 | 11 |
| Lambda | 5.0 | 2.9 | 14 | 7 | 12 | 8 |
| Mu | 2.2 | 1.8 | 23 | 21 | 18 | 20 |
| Nu | 1.3 | .9 | 24(L) | 22 | 23 | 21 |
| Xi | 7.1 | 2.1 | 9 | 14 | 17 | 13 |
| Omicron | 24.4 | 16.9 | 2(H) | 3 | 2 | 1 |
| Pi | .8 | .6 | 26(L) | 25 | 26 | 26 |
| Rho | 3.2 | 1.4 | 18 | 24 | 22 | 24 |
| Sigma | 23.2 | 6.4 | 3(H) | 1 | 4 | 3 |
| Tau | 1.3 | .8 | 25(L) | 23 | 24 | 23 |
| Upsilon | 9.4 | 6.5 | 7 | 8 | 3 | 6 |

Table 5--Continued

| Community College | Total Assets (million $) | Current Fund Assets (million $) | Rank Total Assets | Rank Total Interest Income | Rank Current Fund Assets | Rank Current Fund Interest Income |
|---|---|---|---|---|---|---|
| Phi | 3.1 | 2.4 | 20 | 18 | 15 | 18 |
| Chi | .4 | .2 | 28(L) | 27 | 28 | 25 |
| Psi | 11.6 | 6.2 | 4(H) | 5 | 5 | 5 |
| Omega | 6.8 | 3.2 | 10 | 12 | 11 | 14 |
| Ion | 5.1 | 2.9 | 13 | 9 | 13 | 10 |
| Orion | 3.7 | 1.7 | 16 | 20 | 21 | 22 |
| Dion | 3.1 | 1.7 | 21 | 15 | 20 | 15 |
| Hypo | 5.3 | 3.5 | 12 | 11 | 10 | 12 |
| System | 195.3 | 104.6 | N=28 | N=28 | N=28 | N=28 |

Note: (H) = Top five highest assets
(L) = Lowest five

Observation and explanation. The relationship of assets to interest income again appears to be directly related. The larger the volume of total assets or Current Fund assets, the greater the relative ranking of total interest earnings and Current Fund interest earnings. The relative rankings do not vary more than a few steps in almost every community college comparison.

Possible interpretation. A community college's increased volume of assets provides a source of increased interest income. Slight variances in this comparison may be due to the make up of the assets and as the study will further reveal the actual investing practices with those assets.

Limitations. The general comparison of assets and interest earnings identifies very little data on which to rank investment performance. Size still appears to be the predominant factor in this macro view of investment performance.

Interest Income as a Percent of Total Funds Available

Another comparable factor in analyzing investment performance is to relate interest earnings with total funds available for investment. For the purpose of this comparison the researcher defined total funds available as Current Fund revenues and beginning fiscal year fund balances or the unexpended funds carried forward from one fiscal year to the next which are idle for various periods of time. These total funds available, when related to interest income earned, will establish the percent of total funds available that were generated by the investment of these funds. The higher the percent of interest income to total funds available should relate to the effort and performance of investing those total funds.

Table 6

Interest Income as a Percent of Total Funds Available

| Community College | Interest Income % of Total Available (%) | Rank Interest Income Percent |
|---|---|---|
| Alpha | 1.165 | 19 |
| Beta | 1.192 | 18 |
| Gamma | 1.370 | 15 |
| Delta | 0.634 | 26(L) |
| Epsilon | 1.789 | 6 |
| Zeta | 1.627 | 11 |
| Eta | 2.257 | 2(H) |
| Theta | 0.509 | 28(L) |
| Iota | 1.854 | 5(H) |
| Kappa | 1.033 | 22 |
| Lambda | 2.123 | 3(H) |
| Mu | 1.240 | 17 |
| Nu | 1.632 | 10 |
| Xi | 1.748 | 8 |
| Omicron | 1.162 | 20 |
| Pi | 1.022 | 23 |
| Rho | 0.556 | 27(L) |
| Sigma | 2.306 | 1(H) |
| Tau | 0.779 | 7 |
| Upsilon | 1.481 | 13 |

Table 6--Continued

| Community College | Interest Income % of Total Available (%) | Rank Interest Income Percent |
|---|---|---|
| Phi | 1.409 | 14 |
| Chi | 0.872 | 25(L) |
| Psi | 1.567 | 12 |
| Omega | 1.001 | 24(L) |
| Ion | 1.660 | 9 |
| Orion | 1.263 | 16 |
| Dion | 1.932 | 4(H) |
| Hypo | 1.096 | 21 |
| System | 1.367 | N=28 |

Note: (H) = Top five highest interest income as a percent of funds available
(L) = Lowest five

Observation and explanation. Interest income as a percent of total funds available varies from .5% to 2.3%. The five highest and lowest ranked community colleges are identified in Table 6. The nearly 2% difference between lowest and highest is quite significant. If Theta Community College had produced interest income equal to Sigma Community College's percent of total funds available, an additional calculated $68,900 might have been generated for Theta Community College.

Possible interpretation. The ranking of interest income as a percent of total funds available did not directly relate to the ranking of total funds available (see Table 7, column 1). It may be interpreted that size/volume alone does not have an overwhelming influence on investment performance. The effective use of those total funds appears to be influenced by other factors.

Limitations. This data analysis is limited to direct comparison between community colleges based upon the ratio of revenue receipts and fund balance. Fund balance is a more constant and investable source of funds, whereas revenues are offset by expenditures on both immediate and/or cyclical spending patterns. In effect, the revenue is only investable until expended.

Fund Balance as a Percent of Total Funds Available

Of total funds available for investment, the fund balance portion may comprise a more direct effect on investment performance than the revenue received portion. Within Florida's community colleges unreserved fund balances from Current Funds range from 0 to 10% of total funds available.

Table 7

Fund Balance as a Percent of Total Funds Available

| Community College | Rank Total Funds Available | Rank Fund Balance | Fund Balance as a Percent of Total Available (%) | Rank Fund Balance as a Percent of Total Available |
|---|---|---|---|---|
| Alpha | 6 | 22 | 2.184 | 27(L) |
| Beta | 3 | 9 | 4.760 | 24(L) |
| Gamma | 19 | 24 | 5.089 | 23 |
| Delta | 24 | 26 | 3.966 | 25(L) |
| Epsilon | 10 | 7 | 10.294 | 12 |
| Zeta | 15 | 16 | 11.360 | 10 |
| Eta | 2 | 1 | 13.314 | 8 |
| Theta | 26 | 27 | 2.649 | 26(L) |
| Iota | 17 | 11 | 16.204 | 2(H) |
| Kappa | 7 | 14 | 5.378 | 22 |
| Lambda | 13 | 6 | 14.849 | 3(H) |
| Mu | 21 | 20 | 9.125 | 15 |
| Nu | 25 | 21 | 13.408 | 5(H) |
| Xi | 14 | 10 | 12.884 | 7 |
| Omicron | 1 | 2 | 5.550 | 21 |
| Pi | 28 | 28 | 2.066 | 28(L) |
| Rho | 20 | 18 | 10.303 | 11 |
| Sigma | 8 | 4 | 13.365 | 6 |
| Tau | 22 | 23 | 8.217 | 17 |
| Upsilon | 5 | 5 | 9.568 | 14 |

Table 7--Continued

| Community College | Rank Total Funds Available | Rank Fund Balance | Fund Balance as a Percent of Total Available (%) | Rank Fund Balance as a Percent of Total Available |
|---|---|---|---|---|
| Phi | 16 | 17 | 8.935 | 16 |
| Chi | 27 | 25 | 7.573 | 18 |
| Psi | 4 | 3 | 10.098 | 13 |
| Omega | 11 | 15 | 6.002 | 20 |
| Ion | 12 | 8 | 11.382 | 9 |
| Orion | 23 | 19 | 18.725 | 1(H) |
| Dion | 18 | 13 | 14.209 | 4(H) |
| Hypo | 9 | 12 | 6.425 | 19 |
| System | N=28 | N=28 | 9.174 | N=28 |

Note: (H) = Top five highest ranking fund balance as a percent of funds available
(L) = Lowest five

The 10% maximum corresponds to a maximum limit regulated by state law. This limit is not a dollar amount but is calculated as a proportional percent of total funds available. Very few of the colleges have had the financial ability to carry forward funds of the 10% magnitude while a few colleges have had difficulty maintaining even the minimum required fund balance percent. On the average, a 3 to 7% fund balance is maintained by most colleges.

It may be assumed that unexpended fund balance is a highly investable, constant source of funds until budgeted for needed expenditures. Therefore, Table 7 demonstrates the relationship between fund balance and interest earnings.

Observation and explanation. Total fund balances as percentages of total funds available range from 2.066% to 18.725%. Of the five highest and five lowest ranking community colleges in that category, three of the highest and two of the lowest correspond respectively with the highest and lowest interest income as a percent of total available rankings in Table 6.

Possible interpretation. This comparison shows the relative relationship of investment performance and volume of fund balance. The lack of a direct relationship between the highest/lowest ranked community colleges in Tables 6 and 7 may be due to the fact that even having a high fund balance percentage of total funds available (i.e., Nu and Orion Community Colleges) does not produce the highest ranked interest income percent of total available funds. It may be interpreted that while higher fund balances improve investment performance, they do not control investment performance.

Limitations. This fund balance analysis assumes that the fund balance was constant throughout the fiscal year when, in fact, a community college's fund balance fluctuates constantly with every dollar received and expended. Furthermore, this analysis is based upon the fund balance amounts at July 1, 1983, the beginning of the fiscal year being analyzed. Subsequent analyses of average fund balances will consider both beginning and ending year fund balances.

Calculated Annual Rate of Return Based Upon Year End Cash, Investments, and Revenues Received

The analysis of earnings income, assets, total funds available for investment and revenues for each community college has provided a general means of comparing investment performance factors. A more accurate comparison is obtained by analyzing specific investment performance characteristics with the intent to isolate those factors which appear to more significantly influence investment performance. This analysis consists of examining Current Fund year end cash and investment balance (rather than fund balance or total assets), one-twelfth of Current Fund revenues (to determine a monthly cash inflow pattern), and calculate an average monthly investable amount. This analysis assumes that expenditures do not affect investable funds whereas they, in fact, do. The extent of the effect is predicted to be very cyclical based upon payroll periods and normal expense payments. It is also assumed that the interest earned on the float from outstanding payroll and payable disbursements will probably offset a significant portion of lost interest due to the outflow of funds. (Refer to Table 8.)

Table 8

Calculated Annual Rate of Return Based Upon Year End Cash, Investments, and Revenues Received

| Community College | Average Monthly Funds Investable (million $) | Calculated Annual Rate of Return (%) | Rank Rate of Return |
|---|---|---|---|
| Alpha | 4.5 | 6.47 | 18 |
| Beta | 6.2 | 7.25 | 14 |
| Gamma | 2.0 | 5.84 | 22 |
| Delta | .6 | 4.94 | 26(L) |
| Epsilon | 5.0 | 7.97 | 8 |
| Zeta | 1.8 | 9.33 | 3(H) |
| Eta | 11.5 | 9.32 | 4(H) |
| Theta | .4 | 5.38 | 25(L) |
| Iota | 2.3 | 7.45 | 11 |
| Kappa | 3.8 | 6.22 | 19 |
| Lambda | 3.9 | 8.82 | 6 |
| Mu | 1.7 | 5.89 | 21 |
| Nu | .9 | 7.70 | 10 |
| Xi | 2.2 | 10.05 | 1(H) |
| Omicron | 14.4 | 7.72 | 9 |
| Pi | .5 | 5.54 | 23 |
| Rho | 1.5 | 3.16 | 28(L) |
| Sigma | 6.4 | 8.16 | 7 |
| Tau | .8 | 6.18 | 20 |

Table 8--Continued

| Community College | Average Monthly Funds Investable (million $) | Calculated Annual Rate of Return (%) | Rank Rate of Return |
|---|---|---|---|
| Upsilon | 5.9 | 6.94 | 15 |
| Phi | 2.1 | 6.89 | 16 |
| Chi | .4 | 7.26 | 13 |
| Psi | 6.7 | 7.30 | 12 |
| Omega | 3.7 | 5.47 | 24(L) |
| Ion | 3.2 | 8.89 | 5(H) |
| Orion | 1.5 | 3.81 | 27(L) |
| Dion | 1.9 | 9.45 | 2(H) |
| Hypo | 3.7 | 6.67 | 17 |
| System | 99.6 | 7.53 | N=28 |

Note: (H) = Top five highest ranking rate of return
(L) = Lowest five

Observation and explanation. The calculated rate of return on average monthly investable funds for the community colleges range from 3.16% to a high of 10.05%. The top five ranked community colleges are identified in Table 8 and only in the case of Dion Community College does the analysis match the findings in Table 7. Two of the lowest ranked community colleges in Table 8 match low rankings in Table 7. The highest ranking community college, Orion, in Table 7 is the next to the lowest ranking community college in Table 8.

Possible interpretation. Tables 7 and 8 do not directly correspond in rankings. Table 8 ranks the community colleges on performance while Table 7 ranks only one factor affecting performance. In the case of Orion Community College, a high ranking in fund balance as a percent of total available funds did not relate to a rate of return based upon performance. Orion, in fact, had a large investable fund balance but had a very poor performance record with respect to investing that fund balance. Later analyses will further portray this fact.

Limitations. This calculated rate of return should not be related to the financial industry rate of return on investments for it only attempts to present the performance rate in conjunction with two specific investment factors, liquid assets and average monthly revenues.

Calculated Annual Rate of Return Based Upon Average Fund Balance and Revenues Received

This analysis further refines the investable funds factor by averaging fiscal year beginning and ending fund balances and including an adjusted average monthly revenue amount. The adjustment assumes that, based upon normal revenue and expenditure cycles, revenues are

investable an average one-half month before spent. This is a rather conservative approach and will tend to reduce the calculated rate of return from the rate of return based upon actual daily funds invested. Sample actual rates of return were extracted and calculated based upon Upsilon Community College financial records. The sample data reflected an actual rate of return approximately 3 percentage points higher than the calculated rate in this analysis. Similar tests with Eta and Lambda Community Colleges revealed approximately the same differential. This analysis most closely reflects actual performance than do previous analyses present (see Table 9).

Observation and explanation. The rates of return from this analysis range from a high of 11.83% to a low of 2.83%. This is a much wider variance than the analysis of factors in Table 8. Of the five highest ranking community colleges in Table 9, only one of the community colleges also ranked highest in Table 8. Of the five lowest in Table 9, four also ranked lowest in Table 8. The predominantly larger community colleges are found in the upper ranking and the predominantly smaller community colleges are the lower rankings.

Possible interpretation. This analysis further specifies and pinpoints those factors which influence investment performance. Further examination of investment performance will rely on nonfinancial or semi-financial data as collected via the questionnaire.

Limitations. This analysis is also limited to the effect of specific factors, average fund balance and adjusted average revenues, on investment performance and should not be related to a standard financial rate of return on investment.

Table 9

Calculated Annual Rate of Return Based Upon Average Fund Balance and Revenues Received

| Community College | Average Monthly Funds Investable (million $) | Calculated Annual Rate of Return (%) | Rank Rate of Return |
|---|---|---|---|
| Alpha | 3.1 | 9.45 | 5(H) |
| Beta | 5.2 | 8.63 | 13 |
| Gamma | 1.3 | 9.16 | 7 |
| Delta | .5 | 5.19 | 24(L) |
| Epsilon | 4.0 | 9.81 | 3(H) |
| Zeta | 1.9 | 8.95 | 10 |
| Eta | 9.9 | 10.86 | 2(H) |
| Theta | .4 | 4.96 | 25(L) |
| Iota | 2.4 | 7.30 | 19 |
| Kappa | 3.5 | 6.81 | 21 |
| Lambda | 3.5 | 9.78 | 4(H) |
| Mu | 1.6 | 6.55 | 22 |
| Nu | .9 | 7.91 | 16 |
| Xi | 2.5 | 8.96 | 9 |
| Omicron | 12.6 | 8.84 | 11 |
| Pi | .4 | 7.39 | 18 |
| Rho | 1.7 | 2.83 | 28(L) |
| Sigma | 4.4 | 11.83 | 1(H) |
| Tau | 1.1 | 4.46 | 27(L) |
| Upsilon | 4.9 | 8.32 | 14 |

Table 9--Continued

| Community College | Average Monthly Funds Investable (million $) | Calculated Annual Rate of Return (%) | Rank Rate of Return |
|---|---|---|---|
| Phi | 1.8 | 8.21 | 15 |
| Chi | .5 | 5.95 | 23 |
| Psi | 5.4 | 9.15 | 8 |
| Omega | 2.8 | 7.33 | 17 |
| Ion | 3.2 | 8.79 | 12 |
| Orion | 1.2 | 4.95 | 26(L) |
| Dion | 1.9 | 9.33 | 6 |
| Hypo | 3.4 | 7.28 | 20 |
| System | 85.8 | 8.74 | N=28 |

Note: (H) = Top five highest ranking rate of return
(L) = Lowest five

Combined Calculated Rates of Returns

The rankings in the analyses of Tables 8 and 9 reveal results from examining different investment factors. Assuming that both methods have some degree of merit, a next logical step consisted of combining the two calculated rates of return and analyzing the resulting combined rates and rankings (Table 10).

Observation and explanation. Rankings in this analysis range from a 10.09% rate of return to a low 3.0% rate of return. This combined rate of return narrows the percent differential found in Table 9 and rearranges the ranking order of community colleges but remains within the community colleges ranked highest in both analyses. The same observation is found in the lowest ranking community colleges.

Possible interpretation. By combining the factors of both analyses there emerges a ranking of community colleges which tend to benefit from all the factors rather than predominantly one or a few factors. This combined rate of return and the associated ranking are used further in the study as a basis for evaluating the nonfinancial and financial data collected.

Limitations. The combined rate of return is also limited to the factors analyzed and should not be related to a standard financial rate of return.

Table 10

Combined Calculated Rates of Return

| Community College | Combined Rates of Return (%) | Rank Combined Rates of Return |
|---|---|---|
| Alpha | 7.96 | 11 |
| Beta | 7.94 | 12 |
| Gamma | 7.50 | 16 |
| Delta | 5.07 | 26(L) |
| Epsilon | 8.89 | 7 |
| Zeta | 9.14 | 6 |
| Eta | 10.09 | 1(H) |
| Theta | 5.17 | 25(L) |
| Iota | 7.38 | 17 |
| Kappa | 6.52 | 20 |
| Lambda | 9.30 | 5(H) |
| Mu | 6.22 | 23 |
| Nu | 7.81 | 13 |
| Xi | 9.51 | 3(H) |
| Omicron | 8.28 | 9 |
| Pi | 6.47 | 21 |
| Rho | 3.00 | 28(L) |
| Sigma | 10.00 | 2(H) |
| Tau | 5.32 | 24(L) |
| Upsilon | 7.63 | 14 |

Table 10--Continued

| Community College | Combined Rates of Return (%) | Rank Combined Rates of Return |
|---|---|---|
| Phi | 7.55 | 15 |
| Chi | 6.61 | 19 |
| Psi | 8.23 | 10 |
| Omega | 6.40 | 22 |
| Ion | 8.84 | 8 |
| Orion | 4.38 | 27(L) |
| Dion | 9.39 | 4(H) |
| Hypo | 6.98 | 18 |
| System | 8.14 | N=28 |

Note: (H) = Top five highest rates of return
(L) = Lowest five

Comparisons of the Analysis Rankings

Tables 11, 12, and 13 present the five highest and five lowest ranking community colleges with respect to the 10 analyses previously discussed. Within these 10 analyses, 11 factors were selected and compared. The comparison revealed that among the highest ranking community colleges in each factor, 15 community colleges placed in the top five rankings with from 1 to 9 placements per community college and an average 3.8 placement per those community colleges. Among the lowest ranking community colleges in each factor, 12 community colleges placed in the bottom five rankings with from 1 to 11 placements per community college and an average 4.8 placements per those lowest ranked community colleges. Only three community colleges of the population of 28 community colleges were identified in both a high and low ranking among these 11 factors.

The last column of Table 13 will serve as a benchmark for further examination of nonfinancial and financial data. For the remaining pages of this study, reference to the highest and lowest rankings pertain to Table 13, column 4.

The Combined Rate of Return ranking (Table 13, Column 4) provides the investment performance benchmark that questionnaire data were evaluated by. While limitations may exist in this analysis, it is the most accurate means of evaluation available to the researcher. These five highest and lowest ranking colleges, based on actual performance data, were compared for each subject area examined in the questionnaire.

Table 11

Comparison of Five Highest and Lowest Ranking Community Colleges Within Each Nonfinancial and Financial Factor (Source: Tables 1-3)

| Rank | Relative FTE Enrollment Data | City Population | County(ies) Population | Total Revenues | Current Revenues |
|---|---|---|---|---|---|
| 1st | Omicron | Eta | Omicron | Omicron | Omicron |
| 2nd | Eta | Omicron | Beta | Eta | Eta |
| 3rd | Beta | Kappa | Psi | Beta | Beta |
| 4th | Psi | Psi | Kappa | Psi | Psi |
| 5th | Alpha | Beta | Sigma | Upsilon | Upsilon |
| 24th | Delta | Rho | Orion | Orion | Nu |
| 25th | Nu | Orion | Delta | Nu | Orion |
| 26th | Theta | Delta | Pi | Theta | Theta |
| 27th | Chi | Tau | Theta | Chi | Chi |
| 28th | Pi | Pi | Mu | Pi | Pi |

Table 12

Comparison of Five Highest and Lowest Ranking Community Colleges Within Each Financial Factor (Source: Tables 4-7)

| Rank | Current Fund Interest Income | Total Assets | Interest Income Percent of Total Funds Available | Fund Balance Percent of Total Available |
|---|---|---|---|---|
| 1st | Omicron | Eta | Sigma | Orion |
| 2nd | Eta | Omicron | Eta | Iota |
| 3rd | Sigma | Sigma | Lambda | Lambda |
| 4th | Beta | Psi | Dion | Dion |
| 5th | Psi | Kappa | Iota | Nu |
| 24th | Rho | Nu | Omega | Beta |
| 25th | Chi | Tau | Chi | Delta |
| 26th | Pi | Pi | Delta | Theta |
| 27th | Delta | Theta | Rho | Alpha |
| 28th | Theta | Chi | Theta | Pi |

Table 13

Comparison of Five Highest and Lowest Ranking Community Colleges Within Each Financial Factor (Source: Tables 8-10)

| Rank | Calculated Annual Rate of Return--Year End Cash/ Investments & Revenues | Calculated Annual Rate of Return--Average Fund Balance & Revenues | Combined Rate of Return |
|---|---|---|---|
| 1st | Xi | Sigma | Eta |
| 2nd | Dion | Eta | Sigma |
| 3rd | Zeta | Epsilon | Xi |
| 4th | Eta | Lambda | Dion |
| 5th | Ion | Alpha | Lambda |
| 24th | Omega | Delta | Tau |
| 25th | Theta | Theta | Theta |
| 26th | Delta | Orion | Delta |
| 27th | Orion | Tau | Orion |
| 28th | Rho | Rho | Rho |

## Analysis of Questionnaire Data

The analysis of questionnaire data is organized by subject areas corresponding to the questionnaire subject areas. All 28 questionnaires were thoroughly reviewed and the data compiled to present observable similarities and differences among the community colleges. In addition, where appropriate, data on the top ranked (combined rate of return) and bottom ranked community colleges were analyzed to determine if any pattern or similarity exists. Appendix C lists the responses from the five highest and lowest ranked community colleges for selected instrument questions.

### Investment Manager Characteristics

An analysis of the specific characteristics of the community college investment manager in Florida portrays a wide range of attributes, but further identifies areas of suggested improvement or alteration.

Investment manager's title. The title of the investment manager may seem to have little importance, but it does relate to the level of importance placed on investment of funds either by providing high level attention or primary attention by a specific financial employee. The relative size of the community college may also dictate the level of assigned responsibility for, in most instances, the smaller institutions have fewer professional staff and must rely on a few individuals handling the majority of technical and critical responsibilities. The findings indicate the following titles were used:

| | |
|---|---|
| Comptroller | 10(36%) |
| Director | 5(18%) |
| Dean | 4(14%) |
| Vice President | 3(11%) |
| Chief Accountant | 1( 4%) |
| Supervisor | 1( 4%) |
| Business Manager | 1( 4%) |
| Assistant Comptroller | 1( 4%) |
| Assistant Dean | 1( 4%) |
| Associate Vice President | 1( 4%) |

The titles among the top and bottom five community colleges are nearly identical and do not indicate any relationship to performance success.

Employment status. All 28 investment managers are full-time employees with 75% of the respondents' duties consisting of business functions. Of the five highest ranked community colleges, two of the investment managers had significant responsibilities outside the area of business. All of the lowest five had primarily business duties.

Educational background. The educational levels of the investment managers were as follows:

| | |
|---|---|
| Bachelors | 16(57%) |
| Master's | 9(32%) |
| Doctorate | 3(11%) |

No differences between highest/lowest rankings were noted.

Professional characteristics. The investment managers held certified status as follows:

| | |
|---|---|
| Teaching certification | 11(39%) |
| Certified Public Accountants | 7(25%) |
| No certification | 10(36%) |

Seven (25%) held educational degrees while 19 (68%) held degrees in other fields. No differences between highest/lowest rankings were noted.

Years of service. The number of years of service of the investment manager ranged as follows:

| | |
|---|---|
| From 1 to 5 years | 15(54%) |
| From 6 to 10 years | 1( 4%) |
| From 11 to 15 years | 6(21%) |
| From 16 to 20 years | 5(18%) |
| Over 20 years | 1( 4%) |

The average years of service was 9.82 years. Both the highest and lowest ranking community college investment managers averaged exactly 11.8 years of service.

Formal investment training. Primarily, the investment managers reported that their formal investment training was obtained through their undergraduate degree and specific courses (47%). Seminars and master's level coursework accounted for another 41% of their formal investment training. No difference between highest/lowest rankings were noted.

Rating formal training. Considering the formal training received by the investment managers, the training was rated as follows:

| | |
|---|---|
| High | 8(29%) |
| Moderate | 17(61%) |
| Poor | 1( 3%) |
| Not Rated | 2( 7%) |

Two of the lowest ranked community colleges' investment managers rated their formal training highly while the top five ranked community colleges' investment managers indicated moderate ratings.

Rating investment background. The response to this characteristic was as follows: 9(32%) rated their investment background as well prepared, 18(64%) as moderately prepared, and 1(4%) as not prepared. Two lowest ranked community college investment managers stated a well prepared background while the sole unprepared investment manager ranked number one in performance.

Observations, explanations, and limitations. Of primary interest to the researcher was the indication of training and preparedness relative to actual performance. It appears that investment performance success may be in actuality not related to perceived formal training but to some other form of experience such as informal review of investment literature, sharing of investment practices, imagination, or intuition. Performance success may be attributed primarily to some other characteristic and training may have less direct affect on actual performance.

Investment Program Characteristics

The next section of the questionnaire dealt with the investment program or the methods and results of the investment instrument utilized by each community college. This section also identifies certain banking practices incorporated in each community college cash management program.

Investment instruments utilized. The investment managers ranked the type of investment instrument they utilized as follows:

1. Most used instrument--43% certificates of deposit, 18% repurchase agreements, 36% State Board of Administration (SBA) pool, and 4% time deposits.
2. Next most used instrument--29% no response, 25% repurchase agreements, 18% certificates of deposit 14% SBA pool, and 4% money market accounts.
3. Least used instrument--64% no response, 11% time deposits, 7% certificates of deposit, 7% treasury bills, 4% savings and loan associations, and 4% U.S. bonds or notes.

The highest ranked community colleges' investment managers invested primarily in the SBA pool, certificates of deposit, and repurchase agreements. The lowest ranked community colleges' investment managers reported these same investment instruments but added time deposits and money market accounts in one-third of their responses. These last two investment media traditionally earn lower rates of interest but are available for smaller investment amounts whereas other investment instruments normally require larger investment amounts.

Time intervals to invest. The minimum investment periods reported ranged from 1 to 90 days with an average of 11.2 days invested. The maximum investment period reported ranged from 1 to 365 days with an average 94.6 days invested. The most common reported investment period ranged from 1 to 120 days with an average 30.1 days invested. Sweep accounts, or daily invested funds, were commonly reported and

may skew the average days invested to a lesser number of days. The highest ranking community colleges' average less days minimum and less days maximum invested than the lowest ranked community college.

Interest rates. Interest rates reported as earned by the community colleges ranged as follows:

1. Maximum rates--from 9.98% to 17% with an 11.36% average rate earned (12.625% was the second highest rate reported).
2. Minimum rates--from 7% to 13% with an 8.77% average rate earned (8.76% was the second highest rate reported).
3. Average rates--from 9.5% to 14% with a 10.05% average rate earned.

The highest ranked community colleges' investment managers reported maximum rates from 10.55% to 12.625% and minimum rates from 9.4% to 10.75%. The lowest ranked community colleges' investment managers reported maximum rates from 10.89% to 17% and minimum rates from 7% to 13%. If, in fact, these reportings are correct, then a possible interpretation for high reported rates of interest and low performance yield may be due to a significant sum of uninvested funds, lost investment days between maturity, an unusually high rate for a short time period offset by much lower rates, or other affecting variables.

Depository selection. In selecting a banking institution to handle depository services for each community college, the investment managers reported these methods of selection: competitive bid--15(54%), use the same bank--seven(25%), rotate among all local banks--3(11%), and by draw--3(11%). The highest ranking community colleges' investment

managers reported competitive bid as the primary means of selection. The lowest ranked community colleges' investment managers reported selecting by rotation or continually using the same bank. Political influence or limited banking facilities may affect these lowest ranked community colleges for all five lowest ranked community colleges are from very similarly populated cities and very similarly populated service areas.

Investment selection. The investment managers reported the selection method for investing funds as follows: competitive bid--17(61%), direct placement with the SBA pool--6(21%), and investing with the same institution--5(18%). The highest ranked community colleges' investment managers reported competitive bid and placement with the same institution as their means of investment selection. The lowest ranked community colleges' investment managers reported competitive bid and SBA pool placement only. The researcher assumes that the effectiveness of some institution placements may be explained by the existence of a contractual agreement with that banking institution which sets guaranteed levels of interest rates on invested funds.

Interest rates on time deposits. Interest rates on time deposits (savings accounts or interest bearing checking accounts) range from 5% to 11.4% with an average reported 8.06% earned. No difference was noted between highest and lowest ranking community colleges.

Minimum compensating balances. Minimum compensating balances (uninvested funds in a community college demand account to provide the bank with a means of earning interest to pay for banking services)

were reported as follows: 15 colleges reported compensating balances from $2,500 to $295,000 with an average $91,500, 13 colleges did not incorporate a minimum compensating balance. Each of the highest ranked community colleges' investment managers reported a required minimum compensating balance while only one of the lowest ranked community colleges' investment managers utilized this banking services payment method.

Bank charges and fees. Only two community colleges reported paying for any bank charge or fee. All highest and lowest ranked community colleges paid no fees.

Month of highest investment. The investment managers reported the month of highest investment activity and volume as follows:

| | |
|---|---|
| September | 7(25%) |
| January | 5(18%) |
| August | 4(14%) |
| December | 2( 7%) |
| June | 2( 7%) |
| February | 1( 4%) |
| May | 1( 4%) |
| November | 1( 4%) |
| July | 1( 4%) |
| No response | 4(14%) |

No differences were noted between the highest and lowest ranking community colleges.

Written investment policies. Responses to questions concerning written investment policies are as follows:

1. Written policy--yes (18), no (10)
2. Policy assigning investment responsibility--yes (17), no (11)
3. Officially delegating authority--yes (16), no (12)
4. Specifies investment types--yes (9), no (19)
5. Authorizes pooling of investments--yes (19), no (9)
6. Requires periodic reporting--yes (10), no (18)

Other policies included annual reports, investment committees, bank selection by Board of Trustees, and check signing requirements. Responses from both highest and lowest ranked community colleges were nearly identical for each policy question. It appears that the existence of or lack of written investment policies has minimal effect on investment performance.

Number of annual investments. The number of times a community college invested funds during FY 1983-84 ranged from once to 250 times with an average of 84.3 investment placements. The maximum of 250 placements is due to daily (other than weekends and holidays) placement of funds via a sweep or money market account. A significant difference is noted between highest and lowest ranking community colleges. High ranking community colleges invested funds from 30 to 244 times annually with 94.6 average placements. Low ranking community colleges invested funds from 6 to 36 times annually with an average of only 17.2 placements annually. It appears that aggressive placement may be a contributing factor to performance success. It may also be

considered that the investment managers at the lowest ranking community colleges, due to limited staff, may not be able to devote as much attention as the higher ranking community colleges' investment managers.

Observations, explanations, and limitations. Within this section of questioning, these factors appear to influence performance success more than others: (a) investment instrument utilized, (b) investment period intervals, (c) depository and investment selection, (d) minimum compensating balances, and (e) number of annual investments. While these factors reflect relative differences among the five highest and five lowest ranking community colleges, it must be noted that they too appear to influence the next grouping of ranked high and low community colleges in a similar manner as the highest and lowest. Distinct influence by the factors becomes difficult to discern when examining the reportings from the mid-range ranked community colleges.

Financial Management Characteristics

This section of the questionnaire pertains to financial management practices, their use, and their effectiveness. Ratings on effectiveness range from one (very effective) to five (no effect or detracts from effectiveness). The cash management practices are examined in this section and will be related to investment performance rankings.

Planned investments. The investment managers were questioned as to the individual(s) planning the investing concerning full-time employment status and board of trustee status. Concerning full-time status, of 28 community colleges reporting, 24 community colleges use

full-time personnel in investment planning; four use brokers, consultants, or others. The average effectiveness of this practice was reported at 1.54 (very effective/above average effectiveness). Both users and nonusers agreed with the effectiveness of this practice. Concerning board of trustee investment planning, 22 community colleges responded with one community college utilizing trustee participation and 21 not. An average effectiveness of 3.75 (little to improve) was reported with users rating the practice at 2.0 (above average) and nonusers at 3.625 (little to improve). No differences were noted between highest and lowest ranking community colleges.

When funds are invested. This questioning centered around authority to invest. Concerning the practice of separate investment by board authorization, 23 community colleges responded with one community college utilizing separate transaction board approval and 22 nonusers. The average effectiveness of 4.0 (little to improve) was reported with users and nonusers both rating this practice at 4.0. No difference was noted between highest and lowest ranking community colleges.

Concerning board resolution of authority practices, 24 community colleges responded with 16 using this practice and 8 not using this practice. An average effectiveness of 1.76 (above average) was reported with users rating this practice 1.38 (very effective) and nonusers at 3.0 (average). No difference was noted between highest and lowest ranking community colleges.

Concerning required board action to invest, 21 community colleges responded with four using the practice and 17 not using the practice. The average effectiveness was reported at 2.94 (average)

with users reporting 1.5 (very effective to above average) and nonusers at 3.29 (average). No differences were noted between highest and lowest ranking community colleges.

Concerning specific board policy, 25 community colleges responded with 21 users reporting a rating of 1.48 (very effective to above average) and four nonusers rating the practice at 3.3 (average). An average rating of 1.71 (above average) was reported. Two lowest ranking community colleges did not use this practice while all highest ranking community colleges did.

Cash forecasting. Investment managers were asked to report on the use and frequency of use of cash forecasting. The results were as follows:

1. Weekly--22 responded, 10 use and rate at 1.3 (very effective) and 12 do not use and rate at 3.14 (average). An average rating of 2.06 (above average) was reported.
2. Monthly--20 responded, 4 use and rate at 1.75 (above average) and 16 do not use and rate at 3.55 (average to little to improve). An average rating of 3.07 (average) was reported.
3. When investments are made--23 responded, 17 use and rate at 1.5 (very effective to above average) and 6 do not use and rate at 2.5 (above average to average). An average rating of 1.61 was reported.
4. When projection and actual data differ--19 responded, 6 use and rate at 1.67 (above average) and 13 do not use and rate at 3.63 (little to improve). An average rating of 2.79 (average) was reported.

In each of these categories, no difference was noted between highest and lowest ranking community colleges.

Investment amounts. The practice of investing in large sums ($100,000+) and smaller sums (less than $100,000) was examined. When asked about the effectiveness of large sum investing, 27 community colleges' investment managers responded with 15 using the practice and 12 not using the practice. An average rating of 2.7 (average) was reported with users rating the practice at 1.62 (above average) and nonusers at 4.22 (little to improve). Smaller sum investing was responded to by 27 community colleges with 21 users and 6 nonusers. An average rating of 1.52 (very effective to above average) was reported with a users rating of 1.3 (average). No differences between highest and lowest ranking community colleges were noted.

Days invested. The investment managers were questioned concerning days of investment at 30 day multiples and/or shorter periods.

1. 30 day multiples--23 respondents, three use and rate at 2.5 (above average to average), 20 do not use and rate 4.25 (little to improve). An average rating of 3.95 (little to improve) was reported.
2. 30 day multiples plus shorter periods--28 respondents, 15 use and rate at 1.2 (very effective); 13 do not use and rate at 3.8 (little to improve). An average rating of 1.65 (above average) was reported.

In this practice, highest and lowest ranking community colleges reported some differences. The highest ranking community colleges did not use

or rate effective 30 day multiple periods. Three lowest ranked community colleges did rate this practice as effective. Concerning short term investing, the opposite results were reported.

Wire transfers. This bank service is utilized by 23 of the 27 reporting community colleges investment managers and rated it 1.26 (very effective). Three community colleges do not use this practice and rated it 4.67 (no effect). No difference among highest and lowest ranked community colleges was noted.

Payments to creditors. In addressing cash outflow, payments to creditors were questioned. The following topics were presented:

1. Deferred payments--28 responded, 10 use and rate 1.7 (above average), 18 do not use and rate 3.46 (average), and an average rating of 2.69 (average) was reported. Four of five highest ranking community colleges use this practice with none of the lowest ranking community colleges using this practice.
2. Prompt payments--28 responded, 21 use and rate 2.33 (above average), 7 do not use and rate 2.5 (above average to average), and an average rating of 2.36 (average) was reported.
3. Monthly payments--21 responded, 4 use and rate 1.33 (very effective), 17 do not use and rate 3.0 (average), and an average rating of 2.72 (average) was reported.
4. Frequent payments--28 responded, 22 use and rate 2.2 (above average), 6 do not use and report 3.5 (average to little to improve), and an average rating of 2.42 (above average) was reported.

While most community colleges practiced prompt payments, a number commented that public relations aside, absolute last date payment was very desirable and easily implemented. This fact was tempered with the absolute requirement to take advantage of payment discounts which, based upon a 2% discount for 10 day or less payment, can provide an annualized savings or opportunity cost of up to 36% of the full cost of the commodity or service.

Interest bearing accounts. The investment manager was asked to report on the use of interest bearing accounts where funds were received and not available for formal investing. Twenty-eight community colleges responded with 20 users and 8 nonusers of this practice. An average effectiveness rating of 1.5 (very effective to above average) was reported with users rating the practice at 1.22 (very effective) and nonusers rating the practice at 2.6 (average). Four of five highest ranking community colleges used this practice while only one of five lowest ranking community colleges used this practice.

Minimum compensating balance. This practice of banking service payment was rated on the average at 2.56 (average) effectiveness. As previously reported, the highest ranking community colleges utilized this practice and the lowest ranking community colleges did not. Users rated this practice at 1.06 (very effective) and nonusers at 3.72 (little to improve). The researcher suggests that some community colleges not required to pay for banking services via a minimum compensating balance do, in fact, pay for the services through lower interest rates or less services offered.

Combined demand accounts. When the accounting system can adequately and accurately segregate multiple fund cash and equity accounts, the necessity for multiple bank accounts is eliminated. Efficiencies and cost savings are realized from pooled cash funds. Each investment manager was asked if his/her institution utilized a single demand account. Of the 28 community colleges responding, 26 utilized combined accounts and two did not. This practice was rated 1.16 (very effective). Both users and nonusers rated this practice efficiency at 1.17 and 1.0, respectively. No difference was noted between highest and lowest ranking community colleges.

Separate demand accounts. This practice received opposite responses to the previous combined demand account question. An average rating of 3.9 (little to improve) was recorded. Those not using this practice rated it at 4.18 in efficiency.

Payroll disbursement transfer. The transferring of funds to a separate payroll account when payable (zero balance demand account) was examined. All 28 community colleges responded with 18 using this practice and rating it at 1.71 (above average) and 10 not using the practice with a 3.56 (little to improve) rating. All five highest ranked community colleges utilized this practice while three of the lowest did not.

Salary disbursements. The timing of salary disbursements affects the cash out-flow of funds. The practice of varied payroll intervals was presented and the following responses resulted:

1. Weekly--17 respondents, none used this practice and the 17 investment managers rated this practice at 4.18 (little to improve).

2. Bimonthly--23 respondents, 11 use and rate this practice at 2.45 (above average) and 12 do not use and rate 3.88 (little to improve).
3. Monthly--23 respondents, 17 use and rate at 1.63 (above average) and 6 do not use and rate 3.67 (little to improve).

The frequency of salary disbursements did not appear to relate to highest or lowest rate of return rankings.

Salary year length. The responses clearly indicate the use of and preference for a longer payroll year length. Payment over 12 months is practiced by 27 of the 28 community colleges with only 9 community colleges practicing lesser payroll year lengths. The average efficiency rating for 12 months was 1.58 (very effective to above average) and for nine months, 3.5 (average to little to improve). No difference between highest and lowest ranking community colleges was noted.

Vacation pay disbursement. The issue of vacation pay disbursements met very conclusive responses. The practice utilized by 26 of the 28 respondents consider the prevailing payroll payment pattern as the proper pattern for disbursing pay checks to employees on vacation. Ratings range from 1.5 (very effective to above average) for this practice to 4.5 (little to improve to no effect) for the other choices. The researcher suggests that the labor involved in special payroll transactions probably influenced this response more than the effect the practice may have on investment earnings. No difference between highest and lowest ranking community colleges was noted.

Factors Restricting Effectiveness

A series of potentially restricting factors were presented to the investment manager to determine if the factors were restrictive or not restrictive to their investment programs.

Lack of knowledge and training. Respondents reported the lack of investment knowledge and training as effectiveness restricting for 46% of the investment managers. Only one highest ranked community college investment manager noted the restrictive nature of limited investment knowledge and training.

Lack of current investment information. Respondents reported the same as the previous factor. No difference among highest and lowest ranking community colleges was noted.

Legal restrictions. This factor received a 75% restrictive vote with 21 community college investment managers so stating.

Bank pressure. This factor received a 68% not restrictive response which may indicate satisfactory relations with the community colleges and banks or contracted arrangements not subject to influence or pressure.

Lack of investment supervision. This factor received a 64% restrictive vote which may indicate the desire to devote more efforts in the investing of funds.

Low interest rates offered. This factor also received a high restrictive rating of 68%. This may suggest that the community college investment managers desire to seek investment alternatives.

Interference by superiors. An 86% not restrictive response indicated an almost nonexistence of interference in investment matters by superiors.

Lack of sufficient internal communication. Response to this factor of 75% not restricting indicates internal communication concerning cash flow, financial matters, and banking matters are satisfactory.

Insufficient amounts of funds. This factor received nearly equal responses which may indicate somewhat satisfactory levels of funding, a lack of understanding of the question, or some other explanation. All five highest ranking community colleges' investment managers responded that this factor did not restrict effectiveness while three of the five lowest ranking community colleges' investment managers stated a restrictive response.

Other Factors

Additional investment performance characteristics were identified during the process of designing the questionnaire. These items were added to the questionnaire to provide additional data or to enhance previously questioned characteristics.

Percentage of time devoted to financial matters. The investment managers from 27 community colleges responded to this question with a response of an average 37.2% of their time devoted to investment/financial matters. Nearly the same percent response was reported by highest and lowest ranking community colleges.

Computerized forecasting. Only five community colleges utilize a computer for detailed cash flow forecasting. A number of respondents

indicated a desire to utilize the computer for this task or a planned implementation of computerized cash flow analysis.

Pooled investments. Over 60% of the community colleges participate in a pooled investment program, primarily the SBA pooled investment. All five highest ranked community colleges participate in pooled investments but only one of the lowest ranked community colleges participated.

NOW accounts. NOW accounts, or interest bearing checking accounts, are utilized by only one-half of the community colleges. All five of the highest ranked community colleges use a form of a NOW account yet only two of the lowest ranked community colleges use this practice.

Observations, explanations, and limitations. With respect to the financial management characteristics, factors restricting effectiveness and other factors as presented, these characteristics and factors appear to be influencing the cash management program and investment performance of Florida's community colleges in the following ways:

1. Number of days funds are invested
2. Deferred payments
3. Interest bearing checking accounts
4. Minimum compensating balances
5. Low interest rates offered
6. Pooled investments

## Critique and Generalizations

The study findings and data analysis provide direct insight into the workings of Florida's community colleges with respect to their

investment programs, cash management programs, and investment managers. By establishing an investment ranking scale on which to measure successful performance the researcher was able to relate performance success to those factors and characteristics affecting the community colleges' cash management and investment programs. Upon identifying both strengths and weaknesses that reportedly exist, prescriptive recommendations can be formulated for review and, if appropriate, implementation.

# PART III

## DISCUSSION, RECOMMENDATIONS, AND IMPLICATIONS

The study findings and data analysis presented in PART II will serve as the basis for the discussion, recommendations, and implications presented.

The purpose of this study was (a) to identify variables appearing to affect cash management practices among Florida's community colleges, (b) to analyze sufficient financial data on Florida's community colleges in order to establish a means of investment performance measurement and subsequently to rank order the community colleges in terms of investment success or lack thereof, (c) to identify banking services utilized by Florida's community colleges and relate these services to both investment performance and other affecting variables, and (d) to identify further the characteristics of the investment managers in Florida's community colleges, and relate these characteristics to demonstrated performance. The variables were identified by utilizing modified instruments of two previous studies designed to identify the specificities of the Florida community college financial systems. The validation process involved the evaluation of content validity as identified in the two previous studies, an editorial review of the modified instrument by a seven member group

from the finance community, and a similar review by a three member team of experts from the banking community.

All 28 Florida community colleges were selected for the study and all 28 community colleges participated in the study and responded to the questionnaire. The data from both the questionnaire and from the financial records of the SBCC were carefully analyzed in such a manner as to build one set of findings upon the next. Data were cross-compared, where appropriate, to provide for various observations, explanations, and possible interpretations.

The study findings and subsequent recommendations of this study should in no way be considered absolute. They are only related to the areas identified in the literature or predicted by the researcher to have some degree of effect on cash management and investment performances. The study revealed or reinforced a number of variables affecting the cash management program and investment performance of Florida's community colleges.

## Discussion

The findings of the study are based upon the investigation of the following basic subject areas:

1. cash management procedures and policies,
2. investment performance and banking services, and
3. variables influencing cash management performances.

The findings of a descriptive data analysis and an analysis of recorded financial data revealed or reinforced the following primary affecting variables.

1. Relative community college size with respect to enrollment, service area population, funding, and banking facilities.
2. Efficient investment use of community college assets coupled with effective selection of investment instruments.
3. The use of proportionally large fund balances to improve investment performance rather than the magnitude of the fund balance itself.
4. Perceived levels of training with respect to actual investment performance.
5. The investment instrument and its proper use based upon investment amount, time period, and market conditions.
6. The use of banking contracts to provide banking success, guaranteed rates of return and pay for these services by incorporating a minimum compensating balance.
7. Aggressive placement of investable funds to improve investment performance.
8. The length of the investment instrument.
9. The deferral of payments with respect to discount terms and public reaction.
10. Interest bearing checking accounts (NOW accounts).
11. Pooled investment sources.

Each survey question was analyzed with respect to all responding colleges and additionally to the five highest and five lowest ranked colleges. The financial data were analyzed to determine each college's relative rate of return on investable assets. This ranking technique

attempted to utilize all available financial data to determine a realistic and reasonable investment rate of return.

As each variable was identified in the questionnaire, observed difference among the responding colleges with respect to rate of return rankings were studied, discussed, and interpreted.

These affecting variables should be considered with respect to each community college's specific situation. Improvements in only a few of these factors may produce substantial improvements in the community college's cash management program and investment performance. The study further revealed that even the highest ranking community college with respect to the investment rate of return may still find room for improvement in the areas where it is surpassed by other community colleges.

## Recommendations

With respect to the primary affecting variables identified in this study as they determine some degree of causal relationship in Florida's community colleges' cash management practices and investment performance, these prescriptive recommendations are offered.

1. Methods should be sought by each community college to improve the efficient and effective use of current assets.
2. Statewide training programs and seminars should be established for the community colleges' chief fiscal officers and investment managers to influence improved cash management and investment techniques and performance.
3. A standing Investment/Cash Management Committee should be formed among the community colleges' investment managers

in conjunction with the SBCC staff and banking community with a responsibility to gather and disseminate investment and cash management data to all of Florida's community colleges. This measure may also influence improved cash management and investment performances.

4. A Florida Community College Cash Management Consortium should be developed and implemented as the focal point for implementing most of these recommendations. A primary responsibility could be to serve as the banking and investment agent for all member community colleges. In this effort, even the smallest community college could benefit from the combined financial strength of the member community colleges. Systemwide bank contracting and investing may significantly improve both the availability and cost of banking services, as well as improved investment performance. The mechanics of such a consortium should be simple, direct, responsive, and provide utmost control of funds by individual member community colleges. The consortium could make use of the planned state satellite communication network, direct access banking telecommunication network, and the Florida Information Resource Network (FIRN).

## Implications

The following implications may be derived as a result of this study.

1. Evidence supports the need for improved cash management and investment techniques among all community colleges in the Florida community college system.
2. These primary affecting variables are considered important by the study respondents.
3. Various limiting factors do in fact have a negative effect on investment performance. These geographic, demographic, and financial limiting factors are not easily overcome. The degree of success for these colleges appears to be attributed to the ability to take advantage of identified strengths and attempting to overcome weaknesses.
4. Less than expected levels of performance exist even among colleges of more favorable geographic, demographic, and financial attributes. Contributing causes are not as easily observed and are not general conditions that may be found in each college of this category.

The findings of this study indicate the need for further research in the following areas:

1. The replication of the study to determine if prescriptive measures which may be taken will have observable positive effects on investment performance.
2. The replication of the study among public school systems in Florida.
3. The determination of the extent that the method utilized in determining the relative rate of return in fact parallels each college's absolute rate of return.

4. The interest that may be generated among the banking community to provide even more desirable banking services and investment opportunities when consolidated public funds are offered for competitive bidding.
5. The change in degree of importance and involvement among the financial administrators in Florida's community colleges as relative cash management and investment success/lack of success is made available.

With improved cash management techniques, Florida's community colleges could have generated, during the study period of 1983-84, an additional 6.3 million dollars in non-tax interest income revenue as compared to actual interest earnings of 11.4 million dollars, a 55% increase.

# APPENDIX A

## COVER LETTER AND QUESTIONNAIRE

Dear

Enclosed please find a survey questionnaire concerning your cash management, investment, and banking relations techniques. I am requesting your assistance by completing and returning this survey instrument. We, as fiscal administrators in Florida community colleges, have expressed a desire to improve non-tax revenues sources and strengthen our financial capabilities. This survey is designed to gather appropriate data to aid the researcher in analyzing current practices, performances, and to make appropriate recommendations.

Your assistance is most vital. It is desired that all 28 institutions respond as previously endorsed by our Council on Business Affairs.

All responses and comments will be held in strictest confidence and every attempt will be made to eliminate the obvious referral to geographic or size variables which tend to identify the smallest and largest institutions.

I hope that you will find the survey interesting to answer and assist the researcher with your comments. Enclosed is a self-addressed, stamped envelope for your convenience.

Thank you for your cooperation.

Rand S. Spiwak
Vice President for
Business Affairs

_____ Yes, I wish to have a copy of the survey results and recommendations.

FINANCIAL MANAGEMENT: CASH MANAGEMENT
PRACTICES IN FLORIDA COMMUNITY COLLEGES

INVESTMENT MANAGER QUESTIONNAIRE

DIRECTIONS: This questionnaire is to be completed by the administrative/staff officer who has been assigned or who has assumed operational responsibility for administering the investment program of the community college. Be assured that neither individual community colleges nor respondents will be identified in a report of the study to be prepared from the data herein obtained, nor in any future project, article, or study.

The survey instrument should require approximately 20-25 minutes for completion. Some questions may best be answered by close approximation or best estimation. In either case, the degree of accuracy is truly appreciated and will improve the resulting data analysis.

Thank you for your assistance in completing this document and in its prompt return.

_____ Please check here if you desire an abstract of this study.

Recipient's Name and Address:

_____

_____

_____

_____

Section I. The Investment Manager

Directions: Please complete all items as noted.

1. Your Title: (Check applicable title)

( ) Vice President, Finance
( ) Dean, Finance
( ) Business Manager
( ) Comptroller
( ) Treasurer
( ) Other _____

2. Employment Status: (Check appropriate response)

( ) Yes
You are a full-time employee of the community college?
( ) No

( ) Yes
Your duties lie primarily in the area of business.
( )

3. Educational Background: (Check highest level attained)

( ) Less than 12 years
( ) High school diploma
( ) Business school graduate
( ) Trade or technical school graduate
( ) Associate degree
( ) Bachelor's degree
( ) Master's degree
( ) Specialist degree
( ) Doctoral degree
( ) Other _____

4. Professional Characteristics: (Check appropriate response)

a. Do you hold a valid certificate as a:

( ) Teacher
( ) C.P.A.
( ) C.M.A.
( ) Other _____
( ) None

b. Do you hold a degree in any field of professional education?

( ) Yes
( ) No

5. Indicate the number of years of service in your present position.

_____

6. Check the type of formal training you have received related to business management or the investment of funds.

( ) Undergraduate degree
( ) Undergraduate coursework
( ) Master's degree
( ) Master's degree coursework
( ) Doctoral degree
( ) Doctoral degree coursework
( ) Seminars
( ) Other _____
( ) None

7. Rate the quality for formal training you have received regarding business management or the investment of funds.

( ) High in Quality
( ) Moderate in Quality
( ) Poor Quality
( ) Have received no formal training

8. Rate your own background, knowledge, and skill in the areas of business management and the investment of funds prior to entering your present position.

( ) Well prepared
( ) Moderately prepared
( ) Generally not prepared

Section II. The Investment Program

1. Please rank the investment instruments used most often in your program by assigning the number one (1) to the most used instrument, the number two (2) to the next most used instrument, etc.

( ) Time deposit
( ) Certificate of deposit
( ) U.S. Treasury bills
( ) Repurchase agreements
( ) Savings and Loan shares
( ) U.S. bonds or notes
( ) Bonds or notes of the state of Florida or other governmental agencies
( ) Other _____

2. Please note below the time intervals for which investments were made during the 1983-1984 fiscal year.

   a. Minimum # days _____
   b. Maximum # days _____
   c. Most common # days _____

3. Indicate below the interest rates received on invested funds.

   a. Maximum rate _____
   b. Minimum rate _____
   c. Estimated average _____

4. Were depositories of funds selected:

   ( ) By competitive bid
   ( ) By regular rotation of all local financial institutions
   ( ) Use of the same financial institution each year
   ( ) Other _____

5. Were investments made through:

   ( ) Competitive bids
   ( ) Local institutions on rotation
   ( ) The same institution each year
   ( ) Other _____

6. What was the maximum rate of interest paid by your bank(s) on open time deposits during the 1983-1984 fiscal year?

   _____%

7. What was the lowest interest rate quoted by your bank(s) for short term loans during the 1983-1984 fiscal year?

   _____%

8. What was the minimum balance required in your demand deposit account during the 1983-1984 fiscal year?

   a. Minimum balance _____
   b. No minimum balance was required _____
   c. If "b" were fees for bank services charged? ( ) Yes ( ) No

9. In which month was the greatest amount of college funds invested?

   _____

10. Does your college's written policy statement covering investment of funds contain any of the elements listed below?

| Yes | No | |
|---|---|---|
| ( ) | ( ) | A written policy exists |
| ( ) | ( ) | Assigns responsibility to a particular individual |
| ( ) | ( ) | Officially delegates authority to make transactions |
| ( ) | ( ) | Specifies the types of investments to be utilized |
| ( ) | ( ) | Authorizes pooling of funds for investment purposes |
| ( ) | ( ) | Requires periodic investment reports |
| ( ) | ( ) | Other _____ |

11. Using your best estimate, how many times were funds invested during the 1983-84 fiscal year?

_____

12. Using your best estimate, what was the amount of revenue earned by your college through the investment of funds during the 1983-84 fiscal year?

$_____

Section III. Financial Management

Directions:

1. In column I, please a check beside each financial management practice if it was used in your college during the 1983-84 fiscal year.

2. In column II, circle the number which indicates your opinion of the effectiveness of each listed practice in producing maximum investment yields.

The following legend will be used as the rating scale:

#1 - Represents a very effective practice
#2 - Represents an above average practice
#3 - Represents an average practice
#4 - Represents a practice which does little to improve earnings
#5 - Represents a practice which either has no effect on earnings or detracts from the potential for maximum earnings

Note: Column II represents your judgments, and each item should be completed regardless of the use of this practice in your college.

| | Financial Management Practices | I Used | I Not Used | II Effectiveness |
|---|---|---|---|---|
| 1. | Investments planned: | | | |
| | a. By full-time employee | ___ | ___ | 1 2 3 4 5 |
| | b. By a board of trustee member | ___ | ___ | 1 2 3 4 5 |
| 2. | Funds are invested: | | | |
| | a. After board authorization for each transaction | ___ | ___ | 1 2 3 4 5 |
| | b. Under authority of board resolution | ___ | ___ | 1 2 3 4 5 |
| | c. Without board action | ___ | ___ | 1 2 3 4 5 |
| | d. In accordance with specific provisions of board policy | ___ | ___ | 1 2 3 4 5 |
| 3. | Detailed cash forecasting is used and is reviewed: | ___ | ___ | 1 2 3 4 5 |
| | a. Weekly | ___ | ___ | 1 2 3 4 5 |
| | b. Monthly | ___ | ___ | 1 2 3 4 5 |
| | c. When investments are made | ___ | ___ | 1 2 3 4 5 |
| | d. When differences between projections and balances occur | ___ | ___ | 1 2 3 4 5 |
| 4. | Only large sums ($100,000+) are regularly invested | ___ | ___ | 1 2 3 4 5 |
| 5. | Small sums (less than $100,000) are invested when available | ___ | ___ | 1 2 3 4 5 |
| 6. | Investments are made: | | | |
| | a. Only for multiples of 30 days | ___ | ___ | 1 2 3 4 5 |
| | b. For 30 day multiples plus shorter periods | ___ | ___ | 1 2 3 4 5 |

| Financial Management Practices | I Used | I Not Used | II Effectiveness | | | | |
|---|---|---|---|---|---|---|---|
| 7. Wire transfer service is used regularly | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| 8. Payments of amounts due creditors are often deferred | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| 9. Creditors are normally paid promptly | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| 10. Payments to creditors are generally issued: | | | | | | | |
| a. Once per month | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| b. More than once per month | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| 11. All cash not invested or immediately required is transferred to an interest bearing account | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| 12. A minimum balance is always maintained in the checking account | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| 13. Cash resources of each fund are deposited in the same account | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| 14. Cash deposited in separate accounts | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| 15. Employee net earnings are transferred to a demand account when payable | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| 16. Gross earnings are transferred when payable | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| 17. Salaries are disbursed: | | | | | | | |
| a. Weekly | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| b. Twice per month | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| c. Monthly | ___ | ___ | 1 | 2 | 3 | 4 | 5 |
| d. Other _____ | ___ | ___ | 1 | 2 | 3 | 4 | 5 |

| Financial Management Practices | I Used | I Not Used | II Effectiveness |
|---|---|---|---|
| 18. Salaries distributed over a period of: | | | |
| a. Twelve months | ___ | ___ | 1 2 3 4 5 |
| b. Ten months | ___ | ___ | 1 2 3 4 5 |
| c. Nine months | ___ | ___ | 1 2 3 4 5 |
| d. Other _____ | ___ | ___ | 1 2 3 4 5 |
| 19. Salaries are distributed to employees during vacation periods: | | | |
| a. In one lump sum | ___ | ___ | 1 2 3 4 5 |
| b. On a monthly basis | ___ | ___ | 1 2 3 4 5 |
| c. According to the pattern prevailing during the school year | ___ | ___ | 1 2 3 4 5 |
| d. As per employee choice | ___ | ___ | 1 2 3 4 5 |

Section IV. Factors Restricting Effectiveness

Directions: Please evaluate the factors listed below in reference to how restrictive each is to the effectiveness of your college's investment program. Place a check in the appropriate column to indicate your opinion; a check in column one indicates a restrictive condition, a check in column two indicates that the condition is not particularly restrictive of the success of the investment program in your college.

| Potentially Restrictive Factors | Restrictive | Not Restrictive |
|---|---|---|
| 1. Lack of knowledge and training regarding investment techniques | ( ) | ( ) |
| 2. Lack of up-to-date, published investment information | ( ) | ( ) |
| 3. Legal restrictions | ( ) | ( ) |
| 4. Bank pressure to maintain higher demand deposit accounts | ( ) | ( ) |
| 5. Lack of time to supervise the investment program | ( ) | ( ) |

| Potentially Restrictive Factors | Restrictive | Not Restrictive |
|---|---|---|
| 6. Low interest rates offered by financial institutions | ( ) | ( ) |
| 7. Interference by superiors | ( ) | ( ) |
| 8. Lack of sufficient internal communication | ( ) | ( ) |
| 9. Insufficient amount of funds available | ( ) | ( ) |
| 10. Other _____ _____ | ( ) | ( ) |
| 11. Other _____ | ( ) | ( ) |

Section V. Other Factors

Directions: Please complete all items as noted.

1. What is the approximate percentage of time the investment manager devotes to fiscal business management practices? _____%

2. Is there a cash management plan such as a forecase to show future receipts/expenditures?
   Yes ( ) No ( )

3. On what time frame basis are cash flow (receipts/expenditures) projections made?

| | | |
|---|---|---|
| Daily | _____ | _____ |
| Weekly | _____ | _____ |
| Monthly | _____ | _____ |
| Quarterly | _____ | _____ |

4. Is a computer program used in projecting cash flows? Yes ( ) No ( )

5. Are investments pooled with any other college/agency or separately invested?

| | | |
|---|---|---|
| Pooled | _____ | _____ |
| Separately Invested | _____ | _____ |

6. Do you use a NOW (interest earning) checking account? Yes ( ) No ( )

APPENDIX B

FOLLOW-UP COVER LETTER

On February 11, 1985, I forwarded a survey questionnaire to you concerning cash management, investment, and banking relations techniques utilized at your institution. To date, I have 21 responses from our 28 community colleges. The accuracy and completeness of the research truly depends on the support of each community college. The data gathered will be confidentially maintained and may provide support to a number of hypotheses concerning cash management performance with respect to geographic location, institution size, college policy, etc. The analysis of this data will be made available to you to assist you in evaluating your cash management program or supporting current or future techniques which you may employ.

It is understood that a number of institutions have made numerous improvements to their cash management programs since the 83/84 survey period. With this in mind, I would still request the 83/84 data and related responses, though notes as to current improvements are greatly desired. Let me assure you that no embarrassment to any institution, nor to any individual, will be permitted as the analysis will be very general, combining like variables among the institutions and reporting findings based upon grouped data. No institution nor investment manager will be identified in the report of the study.

I have enclosed an additional copy of the February 11th survey and sincerely ask for your participation and cooperation in this study. Enclosed is a self-addressed envelope for your convenience.

Thank you for your consideration.

Sincerely yours,

Rand S. Spiwak

Vice President for Business Affairs

# APPENDIX C

## SELECTED QUESTIONNAIRE DATA

| Community College | Ranking | Title | Degrees | Professional |
|---|---|---|---|---|
| Eta | 1st | Vice President | Master's | Certified Instructor |
| Sigma | 2nd | Comptroller | Bachelor's | |
| Xi | 3rd | Vice President | Doctorate | Certified Accountant |
| Dion | 4th | Director | Bachelor's | |
| Lambda | 5th | Assistant Dean | Master's | Certified Instructor |
| Tau | 24th | Director | Bachelor's | Certified Accountant |
| Theta | 25th | Comptroller | Bachelor's | Certified Instructor |
| Delta | 26th | Dean | Doctorate | Certified Instructor |
| Orion | 27th | Comptroller | Master's | |
| Rho | 28th | Vice President | Master's | Certified Instructor |

| Ranking | Investment Training | Investment Rates/ Time Deposits | Month of Highest Investment |
|---|---|---|---|
| 1st | Master's work | 5.25% | May |
| 2nd | None | - | December |
| 3rd | Undergraduate work | 9.25% | January |
| 4th | Master's work | 9.50% | August |
| 5th | Undergraduate work | 6.25% | August |
| 24th | Seminars | - | December |
| 25th | Undergraduate work | 9.65% | August |
| 26th | Undergraduate work | 5.00% | August |
| 27th | Master's work | 10.00% | - |
| 28th | Master's work | - | January |

| Ranking | Policy #1 | #2 | #3 | #4 | #5 | #6 |
|---|---|---|---|---|---|---|
| 1st | Y | Y | Y | Y | Y | Y |
| 2nd | N | N | N | N | N | N |
| 3rd | N | Y | Y | N | Y | N |
| 4th | Y | N | N | N | Y | Y |
| 5th | N | N | Y | N | Y | Y |
| 24th | N | N | N | N | Y | Y |
| 25th | N | Y | Y | N | Y | Y |
| 26th | Y | N | N | N | Y | N |
| 27th | N | N | N | N | N | N |
| 28th | Y | Y | Y | Y | Y | Y |

Y = Yes

N = No

REFERENCES

Brown, L. L. (1979). Federal impact aid to school districts. Journal of Education Finance, 4, 216-219.

Dembowski, F. L. (1978). The optimization of school district cash management: A case study. Dissertation Abstracts International, 39, 2642A. (University Microfilms No. DDK78-20411)

Haag, L. H. (1977). Cash management and short-term investments for colleges and universities. Washington: National Association of College and University Business Officers.

Haskins, F., & Sells, D. R. (1977). Implementing effective cash management in local government. Washington: Municipal Finance Officers Association.

Hightower, T. Y. (1981). Investment programs and related financial management practices in school districts in Missouri. Dissertation Abstracts International, 42, 3866A. (University Microfilms No. DE082-05388)

Hill, R. W. (1970). Cash management techniques. Washington: American Management Association.

Howard, K., & Jones, J. A. (1973). Investments of idle funds by local governments: A primer. Chicago: Municipal Finance Officers Association.

Lordan, J. F. (1973). The banking side of corporate cash management. Boston: Financial Publishing.

Nivens, M. (1979). An analysis of the investment of idle funds in the four-year universities of the Tennessee State Board of Regents. Dissertation Abstracts International, 40, 4835A. (University Microfilms No. DEM80-05416)

Patitucci, F. M., & Lichtenstein, M. H. (1977). Improving cash management in local government: A comprehensive approach. Washington, DC: Municipal Finance Officers Association.

Snearly, W. D. (1982). Investments and cash management in Indiana public school corporations. Dissertation Abstracts International, 43, 1803A. (University Microfilms No. DEO 82-25765)

Walton, L. W. (1981). The optimization of school district cash management in Florida public school districts. Dissertation Abstracts International, 42, 4244A. (University Microfilms No. DEO 82-05702)

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FOR JUNIOR COLLEGES
MAR 14 1986